

LAB 08 – FINAL PROJECT

Cyber Security Essentials

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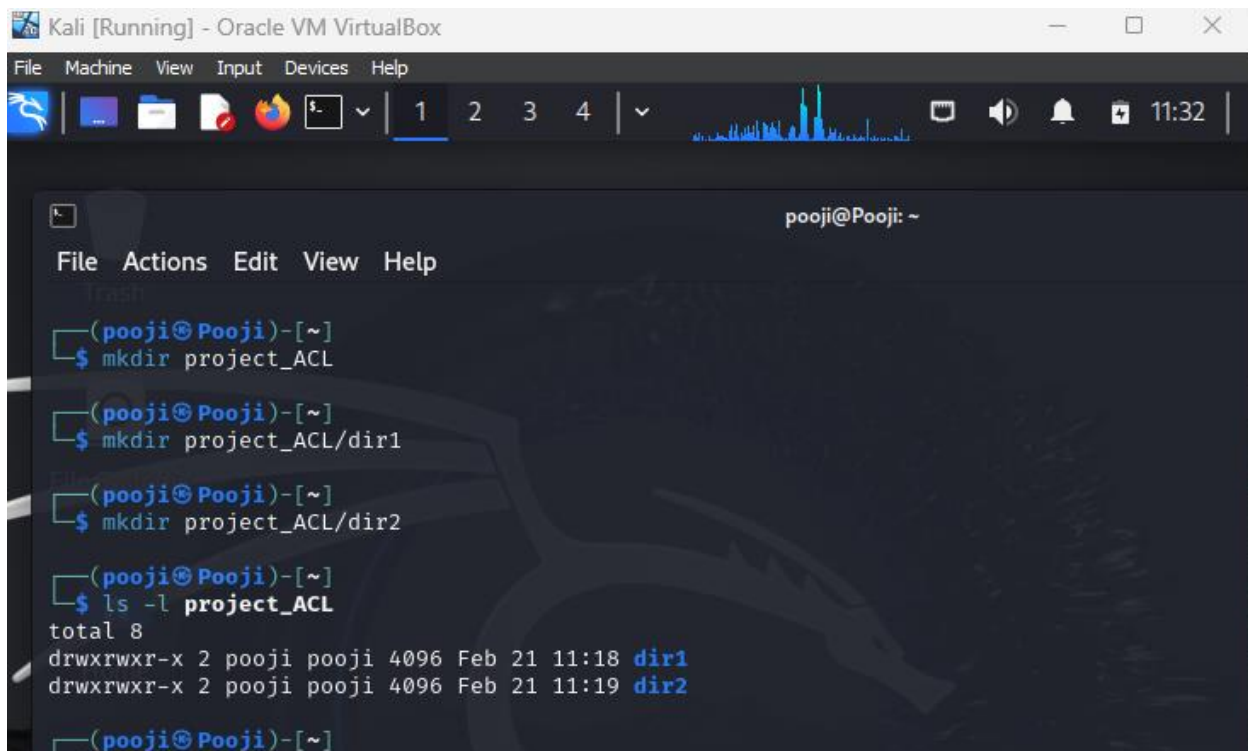
NSBM ID: 30229

Step 1: Create Directories for the Project

Directory - "project_ACL"

Sub directory- dir1

(Commands used – mkdir, ls -l)

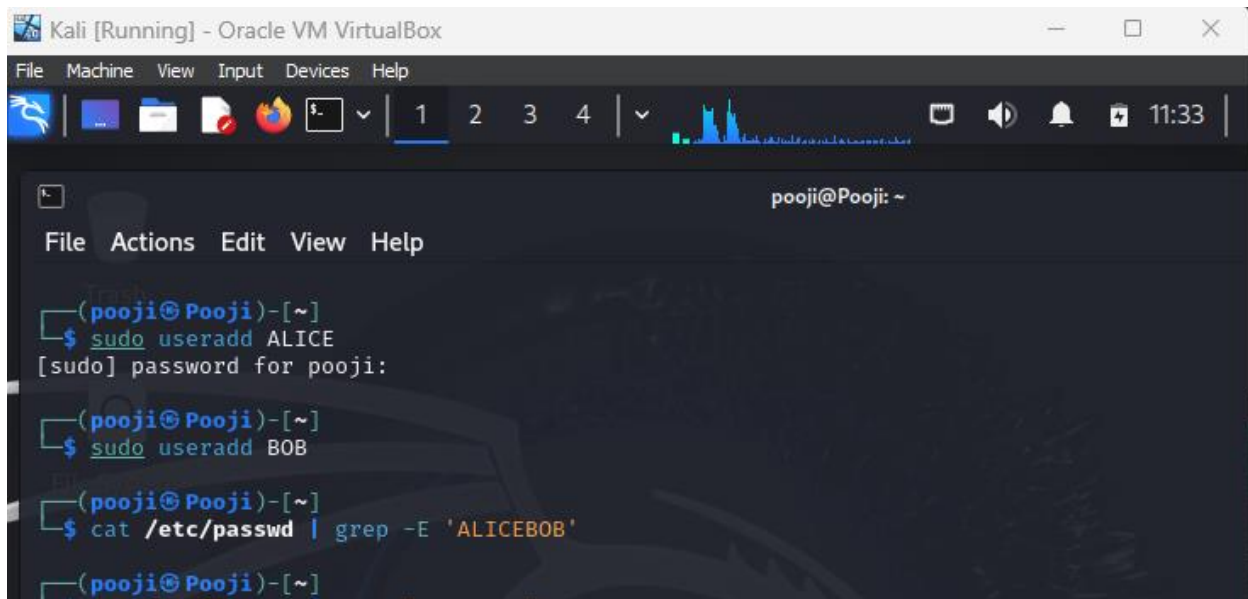


The screenshot shows a terminal window titled "Kali [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
pooji@Pooji: ~  
File Actions Edit View Help  
Trash  
(pooji@Pooji)-[~]  
$ mkdir project_ACL  
(pooji@Pooji)-[~]  
$ mkdir project_ACL/dir1  
(pooji@Pooji)-[~]  
$ mkdir project_ACL/dir2  
(pooji@Pooji)-[~]  
$ ls -l project_ACL  
total 8  
drwxrwxr-x 2 pooji pooji 4096 Feb 21 11:18 dir1  
drwxrwxr-x 2 pooji pooji 4096 Feb 21 11:19 dir2  
(pooji@Pooji)-[~]
```

Step 2: Create Users (ALICE and BOB)

(Commands used – useradd, passwd, cat /etc/passwd | grep)



The screenshot shows a Kali Linux terminal window titled "Kali [Running] - Oracle VM VirtualBox". The terminal prompt is "pooji@Pooji: ~". The user has executed the following commands:

```
(pooji@Pooji)-[~]  
$ sudo useradd ALICE  
[sudo] password for pooji:  
  
(pooji@Pooji)-[~]  
$ sudo useradd BOB  
  
(pooji@Pooji)-[~]  
$ cat /etc/passwd | grep -E 'ALICEBOB'
```

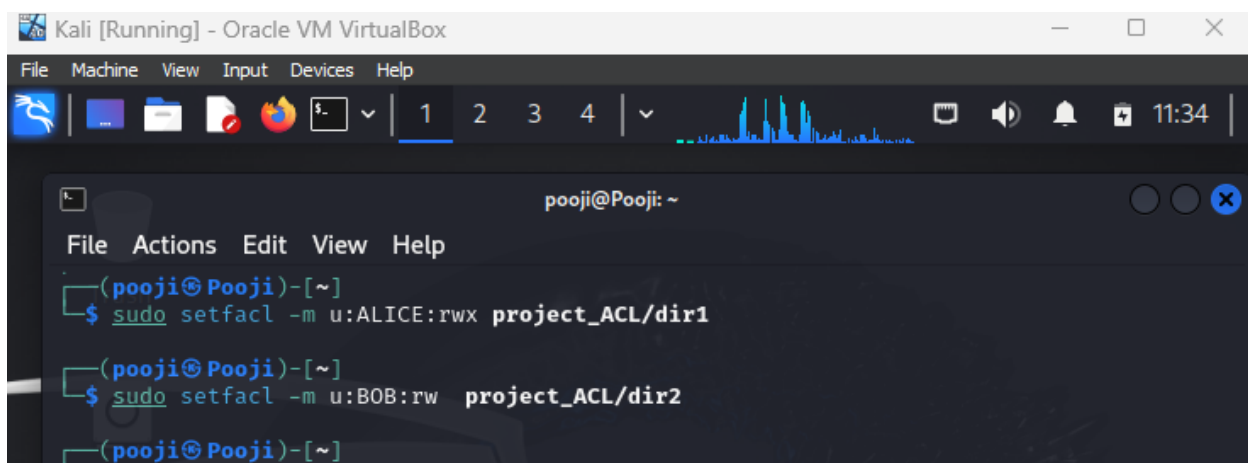
Step 3: Set ACL for Users on Each Directory

Grant different permissions to users for each directory:

ALICE: rwx

BOB:rw

(Command used – setfacl -m u:'username': 'permissions')



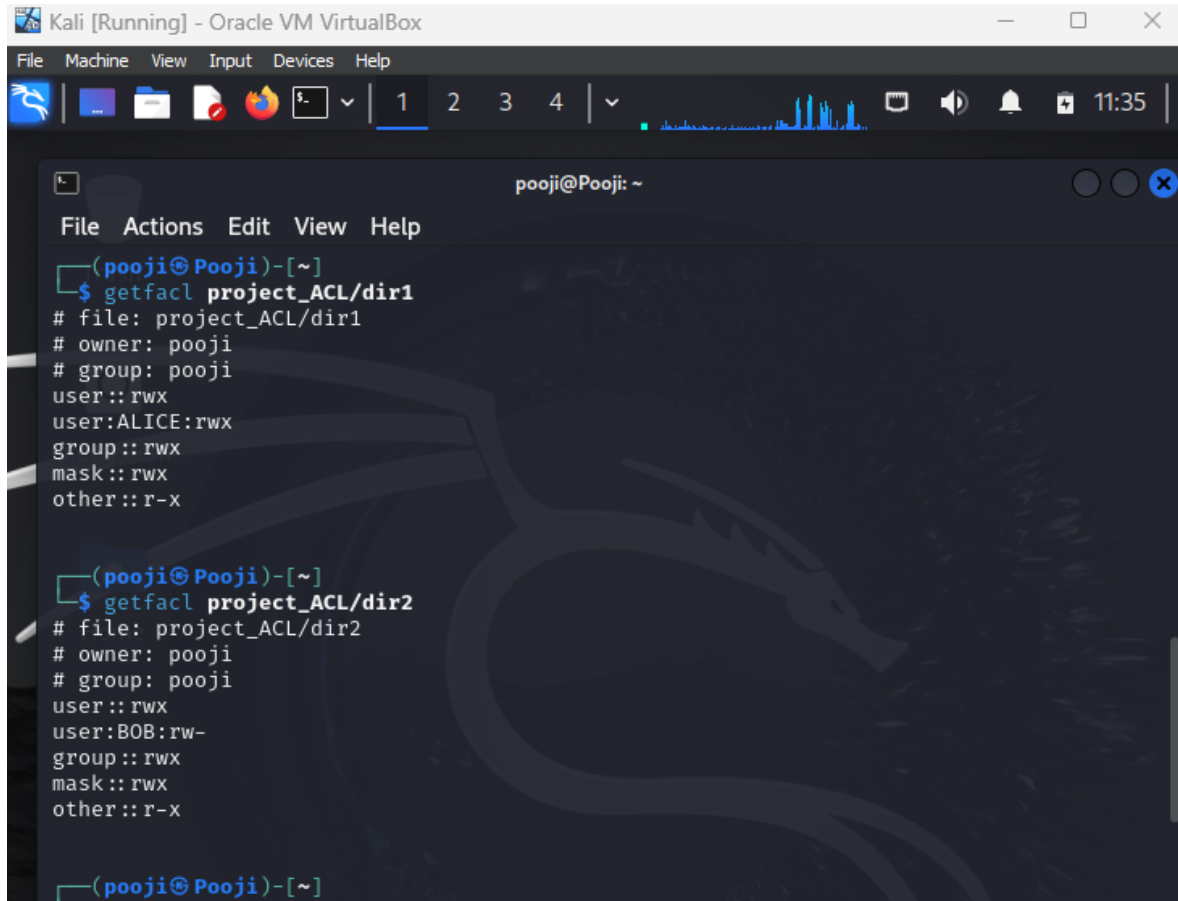
The screenshot shows a Kali Linux terminal window titled "Kali [Running] - Oracle VM VirtualBox". The terminal prompt is "pooji@Pooji: ~". The user has executed the following commands:

```
(pooji@Pooji)-[~]  
$ sudo setfacl -m u:ALICE:rwx project_ACL/dir1  
  
(pooji@Pooji)-[~]  
$ sudo setfacl -m u:BOB:rw project_ACL/dir2  
  
(pooji@Pooji)-[~]
```

Step 4: Verify Given Permissions

(Commands used – getfacl)

To verify ACL settings:



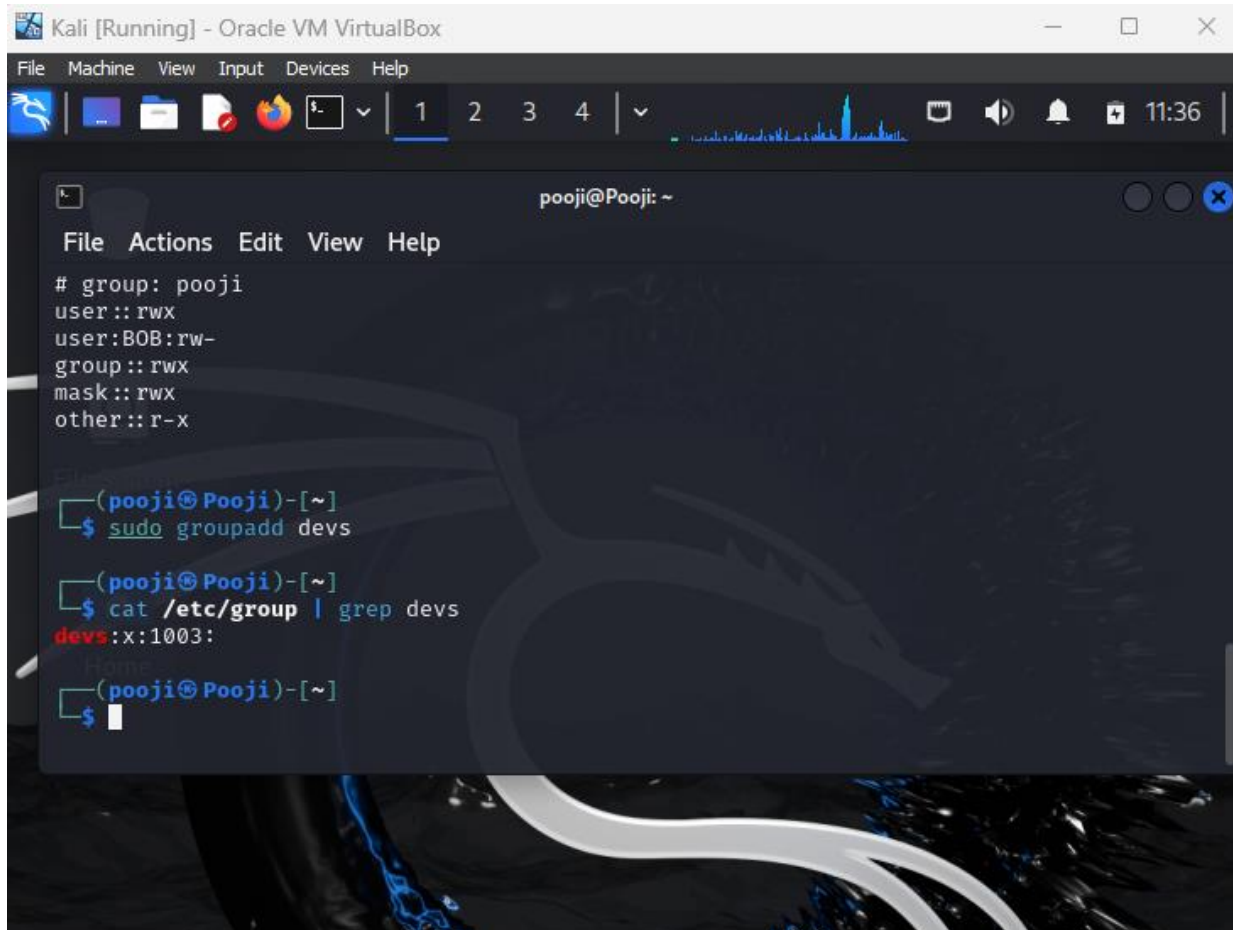
The screenshot shows a Kali Linux terminal window titled "Kali [Running] - Oracle VM VirtualBox". The terminal is running the `getfacl` command on two directories: `project_ACL/dir1` and `project_ACL/dir2`. The output for `dir1` shows permissions for the owner (pooji), group (pooji), and others (rwx). The output for `dir2` shows permissions for the owner (pooji), group (pooji), and others (r-x), with an additional entry for user:BOB (rw-).

```
pooji@Pooji: ~  
File Actions Edit View Help  
$ getfacl project_ACL/dir1  
# file: project_ACL/dir1  
# owner: pooji  
# group: pooji  
user::rwx  
user:ALICE:rwx  
group::rwx  
mask::rwx  
other::r-x  
  
$ getfacl project_ACL/dir2  
# file: project_ACL/dir2  
# owner: pooji  
# group: pooji  
user::rwx  
user:BOB:rw-  
group::rwx  
mask::rwx  
other::r-x  
  
$
```

Step 5: Create Groups and verify the group creation

Creating group: devs

(Commands used – groupadd, cat/etc/group | grep)



The screenshot shows a Kali Linux terminal window running inside an Oracle VM VirtualBox. The terminal window has a title bar that says "Kali [Running] - Oracle VM VirtualBox". The terminal content shows the following commands and output:

```
# group: pooji
user::rwx
user:BOB:rwx
group::rwx
mask::rwx
other::r-x

(pooji@Pooji)-[~]
$ sudo groupadd devs

(pooji@Pooji)-[~]
$ cat /etc/group | grep devs
devs:x:1003:

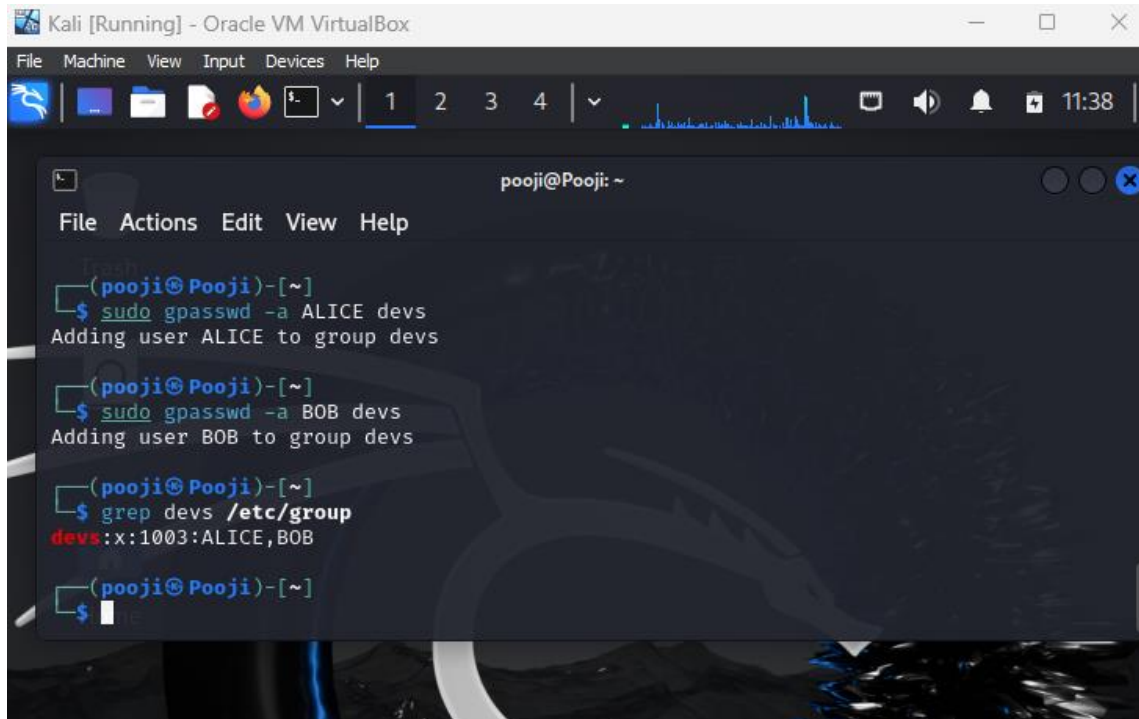
(pooji@Pooji)-[~]
$
```

Step 6: Add Users to Groups I have created

(Command used – gpasswd – a)

Add ALICE and BOB to the group “devs”

And check group members (ALICE and BOB)

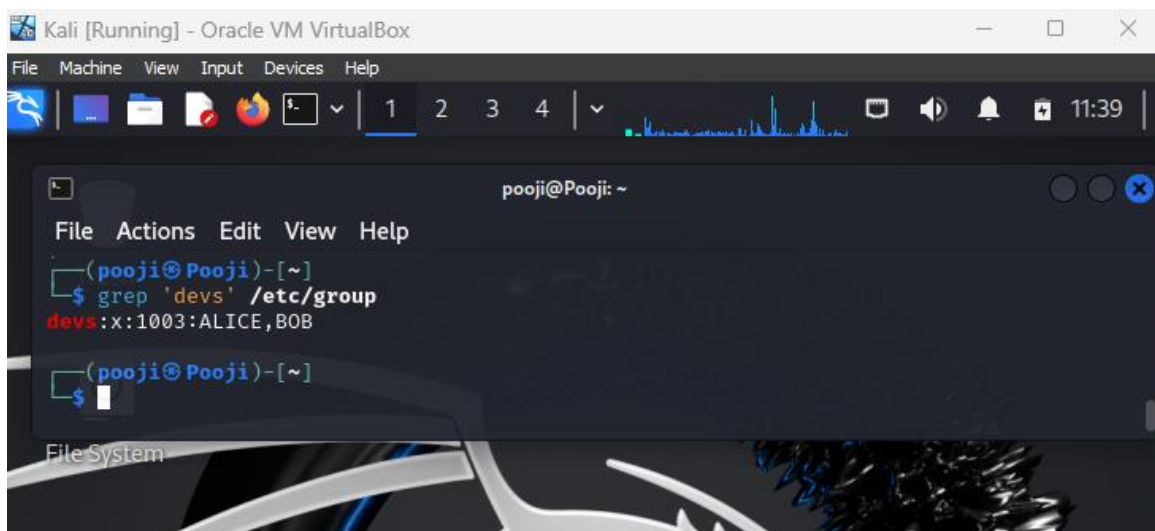


The screenshot shows a terminal window titled "pooji@Pooji: ~". The user has executed the following commands:

```
(pooji@Pooji)-[~]  
$ sudo gpasswd -a ALICE devs  
Adding user ALICE to group devs  
  
(pooji@Pooji)-[~]  
$ sudo gpasswd -a BOB devs  
Adding user BOB to group devs  
  
(pooji@Pooji)-[~]  
$ grep devs /etc/group  
devs:x:1003:ALICE,BOB  
  
(pooji@Pooji)-[~]  
$
```

Step 7: Check Group Memberships

(commands used – grep “group name” /etc/group)



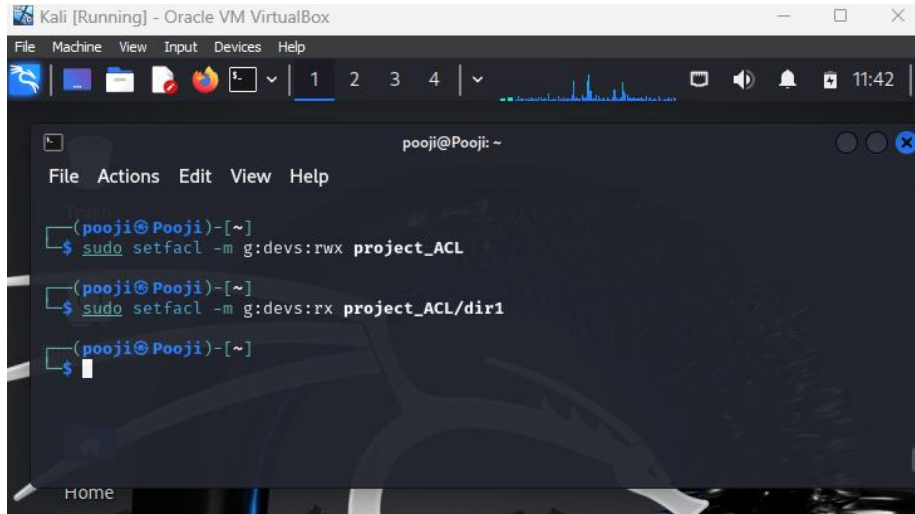
The screenshot shows a terminal window titled "pooji@Pooji: ~". The user has executed the following commands:

```
(pooji@Pooji)-[~]  
$ grep 'devs' /etc/group  
devs:x:1003:ALICE,BOB  
  
(pooji@Pooji)-[~]  
$
```

Step 8: Set ACL for Groups on Directories

(command used – setfacl -m g:"groupname": "permissions")

Grant different permissions to the “devs” group

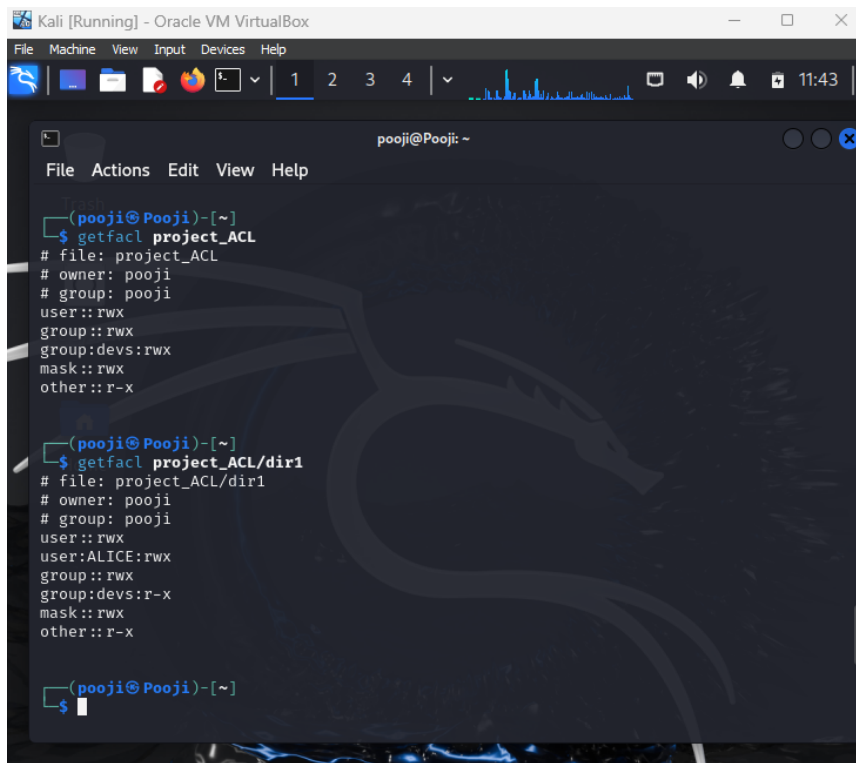


```
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
1 2 3 4
pooji@Pooji: ~
File Actions Edit View Help
(pooji@Pooji)~[~]
$ sudo setfacl -m g:devs:rwx project_ACL
(pooji@Pooji)~[~]
$ sudo setfacl -m g:devs:rx project_ACL/dir1
(pooji@Pooji)~[~]
$
```

Step 9: Check the ACL of directories (dir1) and see if the group permissions are done.

(command used – getfacl)

Verify that group permissions are applied:



```
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
1 2 3 4
pooji@Pooji: ~
File Actions Edit View Help
(pooji@Pooji)~[~]
$ getfacl project_ACL
# file: project_ACL
# owner: pooji
# group: pooji
user::rwx
group::rwx
group:devs:rwx
mask::rwx
other::r-x

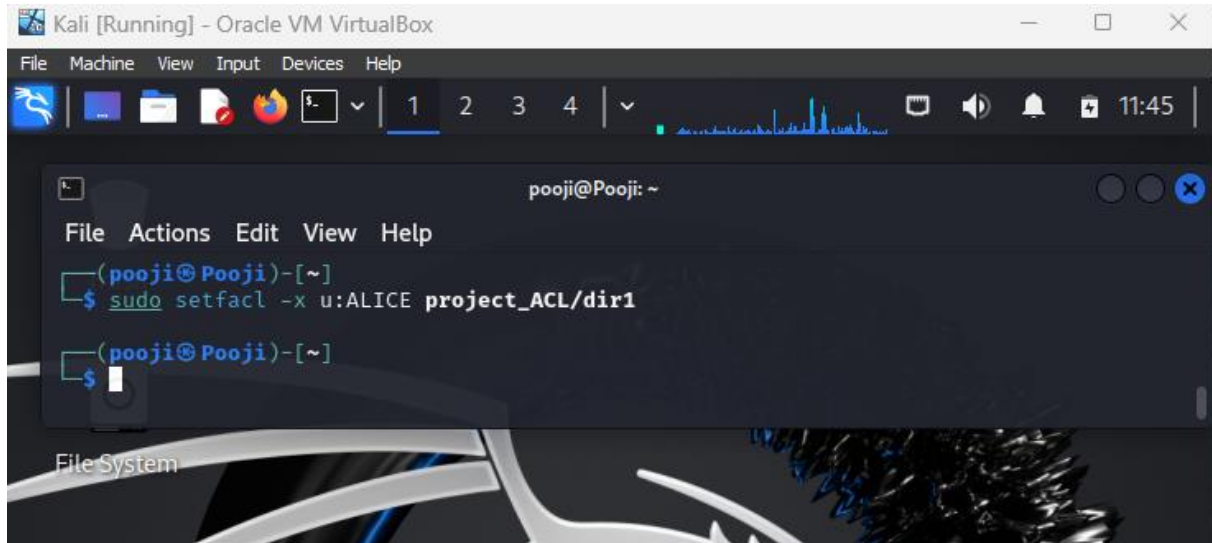
(pooji@Pooji)~[~]
$ getfacl project_ACL/dir1
# file: project_ACL/dir1
# owner: pooji
# group: pooji
user::rwx
user:ALICE:rwx
group::rwx
group:devs:r-x
mask::rwx
other::r-x

(pooji@Pooji)~[~]
$
```

10. Cancel some permissions given to a user or a group over a directory

(commands used – `setfacl -x u:"username" directory`)

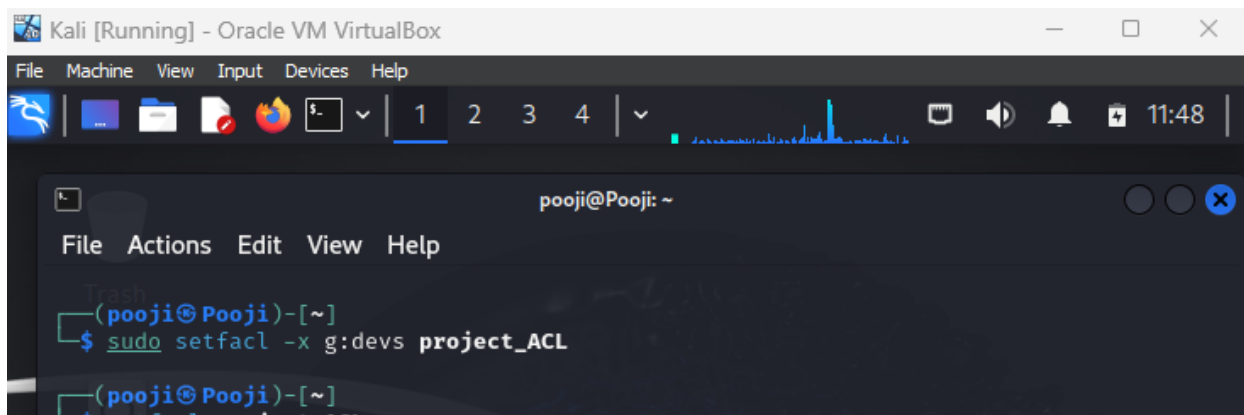
Remove ALICE's access to dir1:



```
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
1 2 3 4
pooji@Pooji: ~
File Actions Edit View Help
(pooji@Pooji)-[~]
$ sudo setfacl -x u:ALICE project_ACL/dir1
(pooji@Pooji)-[~]
$
```

(commands used – `setfacl -x g:"group name"`)

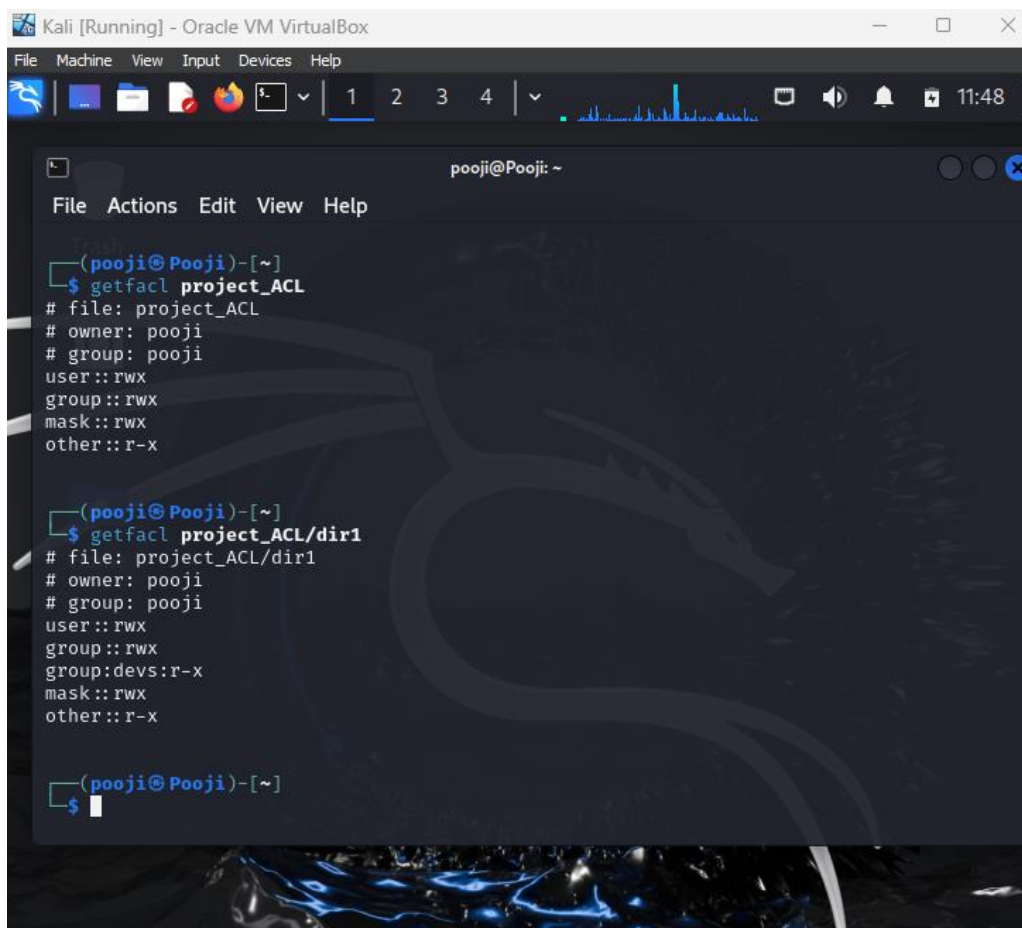
Remove “devs” group access from project_ACL:



```
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
1 2 3 4
pooji@Pooji: ~
File Actions Edit View Help
(pooji@Pooji)-[~]
$ sudo setfacl -x g:devs project_ACL
(pooji@Pooji)-[~]
$
```


(commands used – getfacl)

Verify:



The screenshot shows a Kali Linux virtual machine window titled "Kali [Running] - Oracle VM VirtualBox". The terminal window is titled "pooji@Pooji: ~" and contains the following commands and output:

```
(pooji@Pooji)-[~]  
$ getfacl project_ACL  
# file: project_ACL  
# owner: pooji  
# group: pooji  
user::rwx  
group::rwx  
mask::rwx  
other::r-x  
  
(pooji@Pooji)-[~]  
$ getfacl project_ACL/dir1  
# file: project_ACL/dir1  
# owner: pooji  
# group: pooji  
user::rwx  
group::rwx  
group:devs:r-x  
mask::rwx  
other::r-x  
  
(pooji@Pooji)-[~]  
$
```